170721

# FLOOD INSURANCE STUDY

## VILLAGE OF CHERRY VALLEY, ILLINOIS

WINNEBAGO COUNTY

SEPTEMBER 16, 1980

federal emergency management agency
federal insurance administration

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PUBLISHED SEPARATELY:

Flood Insurance Rate Map

# FLOOD INSURANCE STUDY

## VILLAGE OF CHERRY VALLEY, WINNEBAGO COUNTY, ILLINOIS

## 1.0 INTRODUCTION

### 1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the Village of Cherry Valley, Winnebago County, Illinois, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study will be used to convert the Village of Cherry Valley to the regular program of flood insurance by the Federal Insurance Administration (FIA). Local and regional planners will use this study in their efforts to promote sound flood plain management.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than those on which these Federally-supported studies are based. These criteria take precedence over the minimum Federal criteria for purposes of regulating development in the flood plain, as set forth in the Code of Federal Regulations at 44 CFR 60.1 (d). In such cases, however, it shall be understood that the state (or other jurisdictional agency) shall be able to explain these requirements and criteria.

### 1.2 Authority and Acknowledgements

The source of authority for this Flood Insurance Study is the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were performed by Harza Engineering Company for the Federal Insurance Administration, under Contract No. H-4562. This study was completed in August 1979.

### 1.3 Coordination

Streams requiring detailed study were identified by representatives of the FIA, and officials of the Village of Cherry Valley. Hydrologic analyses were coordinated with the Illinois State Water Survey (SWS) and the Illinois Department of Transportation, Division of Water Resources (DOWR). Hydraulic analyses were coordinated with the U.S. Army Corps of Engineers (COE) and the City-County Planning Commission.

On April 29, 1980, the results of the work by the Study Contractor were reviewed and accepted at a final coordination meeting attended by representatives of the Study Contractor, the FIA, and community officials.

## 2.0 AREA STUDIED

### 2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of the Village of Cherry Valley. The area of study is shown on the Vicinity Map (Figure 1).

The areas studied by detailed methods were selected with priority given to all known flood hazard areas, and areas of projected development or proposed construction through August 1984.

Approximate methods of analysis were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to and agreed upon by the FIA and the Village of Cherry Valley.

Floods caused by the overflow of the Kishwaukee River and Madigan Creek were studied in detail. The Kishwaukee River was studied from 2,300 feet downstream of the confluence with Madigan Creek to the upstream limits at Interstate Highway 20, about 7,000 feet in length. Madigan Creek was studied from Old Harrison Avenue to Perryville Road, about 2,300 feet in length. The Bell School Road Tributary to Madigan Creek was studied from Perryville Road to Newburg Road by approximate methods.

### 2.2 Community Description

The Village of Cherry Valley lies in north-central Illinois in the southeastern part of Winnebago County. Cherry Valley is eight miles southeast of downtown Rockford. The village is bordered by the unincorporated areas of Winnebago County. Nearby communities include Rockford to the northwest and Belvidere to the east. The total land area is 1.8 square miles. This total includes a recent annexation of 0.8 square miles on the northwest side of the Interstate Highway 20 bypass. The population of Cherry Valley was 1,055 in 1970 (Reference 1). The village clerk estimates the 1979 population to be the same.

The climate of Cherry Valley can be described by records from the Rockford Airport (Reference 2). The mean annual temperature is 48.6 degrees Fahrenheit (F.); whereas, the extreme daily high was 103 degrees F., and the extreme daily low was -25 degrees F. The mean annual precipitation is 34.4 inches. Precipitation is concentrated in spring and summer, with 65 percent falling in the six months from April through September.

The land northwest of the Kishwaukee River slopes gently up to a high spot of 830 feet near the intersection of Bell School and Newburg Roads. Southeast of the river, the topography is flat with low areas less than 720 feet, found near the southern corporate boundary. The predominate soils are silt and silty clay loams. The moderately permeable subsoils may cause drainage problems where outlets do not exist (Reference 3).

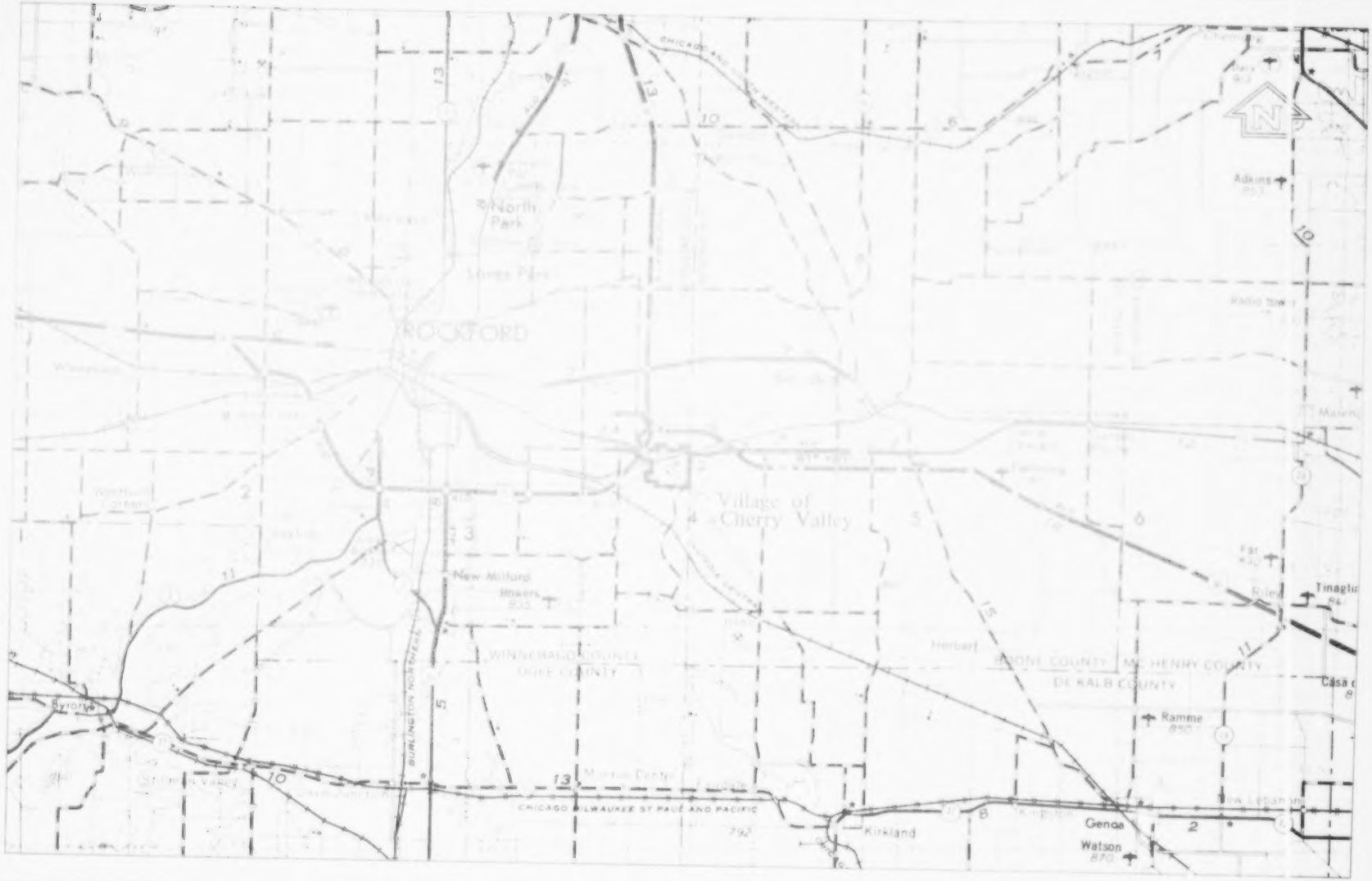


FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

# VILLAGE OF CHERRY VALLEY, IL
(WINNEBAGO CO.)

APPROXIMATE SCALE
4 0 4 8 12 MILES

VICINITY MAP

The Kishwaukee River flows southwest for 0.9 mile through Cherry Valley. The drainage area of the Kishwaukee River before it joins with South Branch Kishwaukee River about two miles downstream from the corporate limits is 655 square miles. Madigan Creek flows southeast for 0.3 miles near the southwest corner of the part of the village north of Harrison Avenue. Madigan Creek's drainage area is 3.9 square miles at Charles Street.

About 60 percent of the village area has been developed. The remainder of the land is wooded or vacant. Within the flood plains, development consists of single-family housing and a few private businesses.

## 2.3 Principal Flood Problems

Principal flood problems in Cherry Valley result from high waters of the Kishwaukee River. Overbank flooding, such as the recent flood of July 3, 1978, has damaged property and necessitated evacuation of homes along Mill Road. East of the river and north of the Chicago and North Western Transportation Company railroad bridge, ground water rising simultaneously with the Kishwaukee River has penetrated into basements.

Madigan Creek overflows its banks during severe storms. Since the flood plain within Cherry Valley is now vacant no major flood problem exists. However, part of the flood plain is zoned for commercial development and therefore a potential flood problem exists.

Major floods in Cherry Valley can be documented from records of the U.S. Geological Survey (USGS) gage on the Kishwaukee River at Belvidere (Reference 4). The gage no. 0548500, with a drainage area of 538 square miles, was established in 1939. Records are continuous to the present. Historic floods and their approximate recurrence intervals are shown below.

HISTORIC FLOODS
KISHWAUKEE RIVER AT BELVIDERE

| Year | Discharge cubic feet per second (cfs) | Recurrence Interval years |
|---|---|---|
| 1943 | 10,300 | 18 |
| 1946 | 9,830 | 16 |
| 1944 | 9,200 | 13 |
| 1971 | 8,350 | 9 |
| 1960 | 8,230 | 9 |
| 1978 | 7,880 | 8 |

## 2.4 Flood Protection Measures

The village is currently building levees around the sewage plant and raising the access road to the plant in order to protect the plant from Kishwaukee River floods. The additions, which are higher than the 500-year flood elevation, were considered in this study. The village administers a comprehensive zoning ordinance that restricts flood plain development.

# 3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equalled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for flood plain management and for flood insurance premium rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equalled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than one year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (one percent chance of annual occurrence) in any 50-year period is about 40 percent (four in ten), and for any 90-year period, the risk increases to about 60 percent (six in ten). The analyses reported here reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

## 3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals for each flooding source studied in detail affecting the community.

Peak discharges for the 10-, 50-, 100-, and 500-year floods on both the Kishwaukee River and Madigan Creek come from the Winnebago County Flood Insurance Study (Reference 5). In that study, discharges for the Kishwaukee River were derived by log-Pearson statistical analyses of streamflow records (Reference 6) at nearby USGS gages, no. 0544000 at Perryville, established in 1940, and no. 05438500 at Belvidere. The discharges for each return period were plotted against drainage area on log-log paper. Discharge values for the reach that includes Cherry Valley were then obtained by straight-line interpolation of these plots.

Madigan Creek peak discharges for the 2- and 100-year floods were calculated by regional flood frequency equations recommended by the State of Illinois (Reference 7). These discharges were plotted on log normal probability paper and discharges for the 10- 50-, and 500-year floods were obtained by straight line interpolation and extrapolation.

The 100 year flood discharges resulting from these analyses were approved by the SWS and certified by the DOWR for use in the state's flood plain regulation program. Discharge values are located in a repository of flood related data administered by the SWS.

Peak discharges for the 10-, 50-, 100-, and 500-year floods of each flooding source studied in detail in the community are shown in Table 1.

TABLE 1 - SUMMARY OF DISCHARGES

| FLOODING SOURCE AND LOCATION | DRAINAGE AREA (SQ MILES) | PEAK DISCHARGE (CFS) 10-YEAR | 50-YEAR | 100-YEAR | 500-YEAR |
|---|---|---|---|---|---|
| KISHWAUKEE RIVER | | | | | |
| At Perryville gage | 1,099 | 15,500 | 25,800 | 30,800 | 44,000 |
| At Belvidere gage | 538 | 8,400 | 13,300 | 15,400 | 20,500 |
| MADIGAN CREEK | | | | | |
| At Charles Street | 3.9 | 560 | 920 | 1,139 | 1,600 |

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of the streams in the community were carried out to provide estimates of the elevations of the floods of the selected recurrence intervals along each flooding source studied in detail.

Cross section and structure data for each stream studied in detail were field surveyed by the COE for a 1973 Flood Plain Information Report (Reference 8).

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Boundary and Floodway Map (Exhibit 2).

Roughness coefficients (Manning's "n" values) for these computations were assigned on the basis of field inspection. The ranges of "n" values for the streams in Cherry Valley are: Kishwaukee River channel and overbank values, 0.035 and 0.065, respectively; and Madigan Creek values, 0.015 to 0.04 for the channel and 0.05 to 0.07 for the overbank.

The starting water-surface elevations for the Kishwaukee River were assumed equal to the elevations of the Rock River at the confluence of the two rivers. Likewise, the starting water-surface elevations for Madigan

Creek were the Kishwaukee River flood elevations at the confluence of the two streams.

Water-surface elevation for floods of selected recurrence intervals were estimated using a hydraulic model for the detailed study streams. The model was developed using the COE HEC-2 backwater computer program (Reference 9). Mathematical relationships used in the model include the standard step-backwater procedure which estimates total energy at each cross section and accounts for friction losses between sections using Manning's formula. The model requires discharge, cross section geometry, bridge geometry, starting water-surface elevations, and roughness data to simulate flood flow conditions. For the areas studied by approximate methods, the flood elevations were determined from a series of hand calculations, historical data, existing topographical mapping (Reference 10), aerial photographs (Reference 11), and field inspection by hydraulic engineers. Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals (Exhibit 1).

The hydraulic analyses for this study are based only on the effects of unobstructed flow. The flood elevations as shown on the profiles are, therefore, considered valid only if hydraulic structures, in general, remain unobstructed and if channel and overbank conditions remain essentially the same as ascertained during this study.

All elevations are referenced from National Geodetic Vertical Datum of 1929 (NGVD); elevation reference marks used in the study are shown on the maps.

## 4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study includes a flood boundary map designed to assist communities in developing sound flood plain management measures.

### 4.1 Flood Boundaries

In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by the FIA as the base flood for purposes of flood plain management measures. The 500-year flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the boundaries of the 100-year and the 500-year floods have been delineated using the elevations determined at each cross section; between cross sections the boundaries were interpolated using topographic maps at a scale of 1:2400, with a contour interval of two feet (Reference 11). The 100-year frequency flood boundaries for approximate studies were determined by utilizing existing topographic mapping (Reference 10), aerial photographs (Reference 11), and historical flooding data.

The boundaries of the 100- and 500-year floods are shown on the Flood Boundary and Floodway Map (Exhibit 2). Small areas within the flood boundaries may lie above the flood elevations and, therefore, not be subject to flooding; owing to lack of detailed topographical information or to limitations of the map scale, such areas are not shown. In cases where the 100-year and the 500-year flood boundaries are close together, only the 100-year boundary has been shown.

## 4.2 Floodways

Encroachment on flood plains, such as artificial fill, reduces the flood-carrying capacity, increases the flood heights of streams, and increases flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, the concept of a floodway is used as a tool to assist local communities in this aspect of flood plain management. Under this concept, the area of the 100-year flood is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent flood plain areas that must be kept free of encroachment in order that the 100-year flood may be carried without substantial increases in flood heights. Minimum standards of the FIA limit such increases in flood heights to 1.0 foot, provided that hazardous velocities are not produced. In Illinois, though, under Revised Statutes, Section 65f, Chapter 19 as amended 1973 (Reference 12), encroachment in the flood plain is limited to that which will cause only an insignificant increase in flood heights. Thus, at the recommendation of the DOWR, a floodway having no more than a 0.1-foot surcharge has been delineated for this study.

The floodways presented in this study were computed on the basis of equal conveyance reduction from each side of the flood plain. The results of these computations were tabulated at selected cross sections for each stream segment for which a floodway was computed (Table 2).

As shown on the Flood Boundary and Floodway Map (Exhibit 2), the floodway boundaries were determined at cross sections; between cross sections, the boundaries were interpolated. In cases where the boundaries of the floodway and the 100-year flood are either close together or collinear, only the floodway boundary has been shown.

The area between the floodway and the boundary of the 100-year flood is termed the floodway fringe. The floodway fringe thus encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 0.1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown in Figure 2.

| FLOODING SOURCE | | FLOODWAY | | | BASE FLOOD WATER SURFACE ELEVATION | | |
|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQ. FEET) | MEAN VELOCITY (FEET/SEC.) | WITH FLOODWAY (NGVD) | WITHOUT FLOODWAY (NGVD) | DIFFERENCE |
| KISHWAUKEE RIVER | | | | | | | |
| A | 73,165 | 953[2] | 7125 | 2.6 | 725.3 | 725.2 | 0.1 |
| B | 73,430 | 582[2] | 4657 | 4.1 | 725.5 | 725.4 | 0.1 |
| C | 74,395 | 713 | 5771 | 3.3 | 726.2 | 726.1 | 0.1 |
| D | 74,945 | 720 | 5220 | 3.6 | 726.4 | 726.3 | 0.1 |
| E | 75,830 | 450 | 4424 | 4.3 | 726.9 | 726.8 | 0.1 |
| F | 77,190 | 325 | 2603 | 7.2 | 727.1 | 727.0 | 0.1 |
| MADIGAN CREEK | | | | | | | |
| A | 5845 | 123 | 197 | 6.1 | 758.3 | 758.3 | 0.0 |
| B | 6445 | 26 | 103 | 11.2 | 760.9 | 760.9 | 0.0 |
| C | 6545 | 26 | 102 | 11.4 | 762.3 | 762.2 | 0.1 |
| D | 6745 | 195 | 606 | 1.9 | 765.9 | 765.8 | 0.1 |
| E | 7325 | 50 | 222 | 5.2 | 766.8 | 766.7 | 0.1 |
| F | 7425 | 35 | 130 | 8.8 | 766.8 | 766.7 | 0.1 |

[1] FEET ABOVE MOUTH
[2] WIDTH EXTENDS BEYOND CORPORATE LIMITS

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration

VILLAGE OF CHERRY VALLEY, IL
(WINNEBAGO CO.)

FLOODWAY DATA

KISHWAUKEE RIVER - MADIGAN CREEK

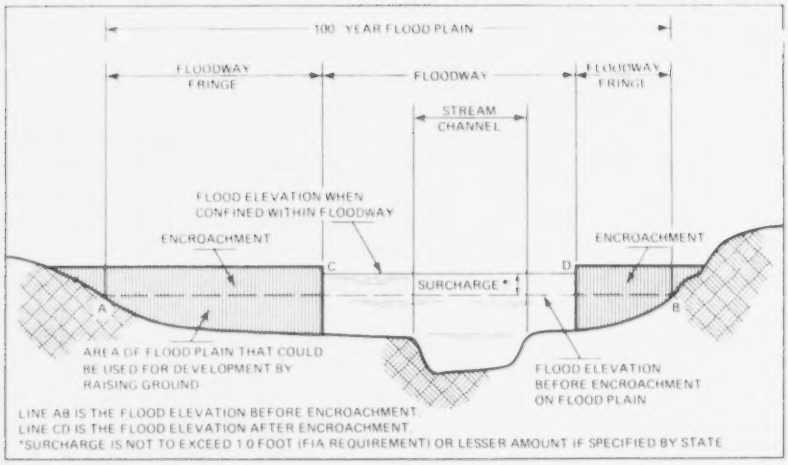
100 YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE*
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE AB IS THE FLOOD ELEVATION BEFORE ENCROACHMENT.
LINE CD IS THE FLOOD ELEVATION AFTER ENCROACHMENT.
*SURCHARGE IS NOT TO EXCEED 1.0 FOOT (FIA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE

FIGURE 2 - Floodway Schematic

## 5.0 INSURANCE APPLICATION

In order to establish actuarial insurance rates, the FIA has developed a process to transform the data from the engineering study into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors (FHF), and flood insurance zone designations for each flooding source affecting the Village of Cherry Valley.

### 5.1 Reach Determinations

Reaches are defined as lengths of watercourses having relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods. This difference does not have a variation greater than that indicated in the following table for more than 20 percent of the reach.

| Average Difference Between 10- and 100-year Floods | Variation |
|---|---|
| Less than 2 feet | 0.5 foot |
| 2 to 7 feet | 1.0 foot |
| 7.1 to 12 feet | 2.0 feet |
| More than 12 feet | 3.0 feet |

The locations of the reaches determined for the Village of Cherry Valley are shown on the Flood Profiles (Exhibit 1) and are summarized in the Flood Insurance Zone Data Table (Table 3).

## 5.2 Flood Hazard Factors

The FHF is used to correlate flood information with insurance rate tables. Correlations between property damage from floods and their FHFs are used to set actuarial insurance premium rate tables based on FHFs from 005 to 200.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations expressed to the nearest 0.5 foot, and shown as a three-digit code. For example, if the difference between water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year water-surface elevations is greater than 10.0 feet, accuracy for the FHF is to the nearest foot.

## 5.3 Flood Insurance Zones

After the determination of reaches and their respective FHFs, the entire incorporated area of the Village of Cherry Valley was divided into zones, each having a specific flood potential or hazard. Each zone was assigned one of the following flood insurance zone designations:

| | |
|---|---|
| Zone A: | Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods; no base flood elevations are shown or FHFs determined. |
| Zones A2, A3, and A6: | Special Flood Hazard Areas inundated by the 100-year flood, determined by detailed methods; base flood elevations are shown, and zones subdivided according to FHF. |
| Zone B: | Areas between the Special Flood Hazard Area and the limits of the 500-year flood, including areas of the 500-year flood plain that are protected from the 100-year flood by dike, levee, or other water control structure; or areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; and areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided. |
| Zone C: | Areas of minimal flooding. |

Table 3, "Flood Insurance Zone Data," summarizes the flood elevation differences, FHFs, flood insurance zones, and base flood elevations for each flooding source studied in detail in the community.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the Village of Cherry Valley is, for insurance purposes, the principal result of the Flood Insurance Study. This map (published separately) contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. This map is developed in accordance with the latest flood insurance map preparation guidelines published by the FIA.

## 6.0 OTHER STUDIES

The Kishwaukee River, Madigan Creek, and the Bell School Road Tributary to Madigan Creek are also included in the Flood Insurance Study for Winnebago County (Reference 5). Results of the Cherry Valley study agree with those of the Winnebago County study.

The COE, Rock Island District, studied the Kishwaukee River for the 1973 Flood Plain Information report (Reference 8). Harza did not use the results of the Flood Plain Information report because its base flood, the Intermediate Regional Flood, yields a peak discharge estimate larger than the 100-year flood. Consequently, the Flood Plain Information report's Kishwaukee River profile is about 1.5 feet higher than the Flood Insurance Study's 100-year profile. Using the information from the Flood Plain Information report, the Chicago Aerial Survey prepared a flood boundary map of the village (Reference 11) for the COE and the City-County Planning Commission. The flood plain shown on the village map is larger than the flood plain shown in this Flood Insurance Study.

A Flood Hazard Boundary Map has been published by the Federal Insurance Administration (Reference 13). The differences between the Flood Hazard Boundary Map and this study are justified due to the more detailed nature of this Flood Insurance Study.

This report either supersedes or is compatible with all previous studies published on streams studied in this report and should be considered authoritative for the purposes of the National Flood Insurance Program.

## 7.0 LOCATION OF DATA

Survey, hydrologic, hydraulic and other pertinent data used in this study can be obtained by contacting the Insurance and Mitigation Division, Federal Emergency Management Agency, One North Dearborn Street, Chicago, Illinois 60602.

| FLOODING SOURCE | PANEL[1] | ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND | | | FLOOD HAZARD FACTOR | ZONE | BASE FLOOD ELEVATION[3] (NGVD) |
|---|---|---|---|---|---|---|---|
| | | 10% (10-YEAR) | 2% (50-YEAR) | 0.2% (500-YEAR) | | | |
| KISHWAUKEE RIVER | | | | | | | |
| REACH 1 | 0001 | −3.0 | −1.0 | 3.2 | 030 | A6 | VARIES–SEE MAP |
| MADIGAN CREEK | | | | | | | |
| REACH 1 | 0001 | −1.5 | −0.5 | 1.2 | 015 | A3 | VARIES–SEE MAP |

[1] FLOOD INSURANCE RATE MAP PANEL
[2] WEIGHTED AVERAGE
[3] ROUNDED TO NEAREST FOOT

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration
VILLAGE OF CHERRY VALLEY, IL
(WINNEBAGO CO.)

FLOOD INSURANCE ZONE DATA

KISHWAUKEE RIVER - MADIGAN CREEK

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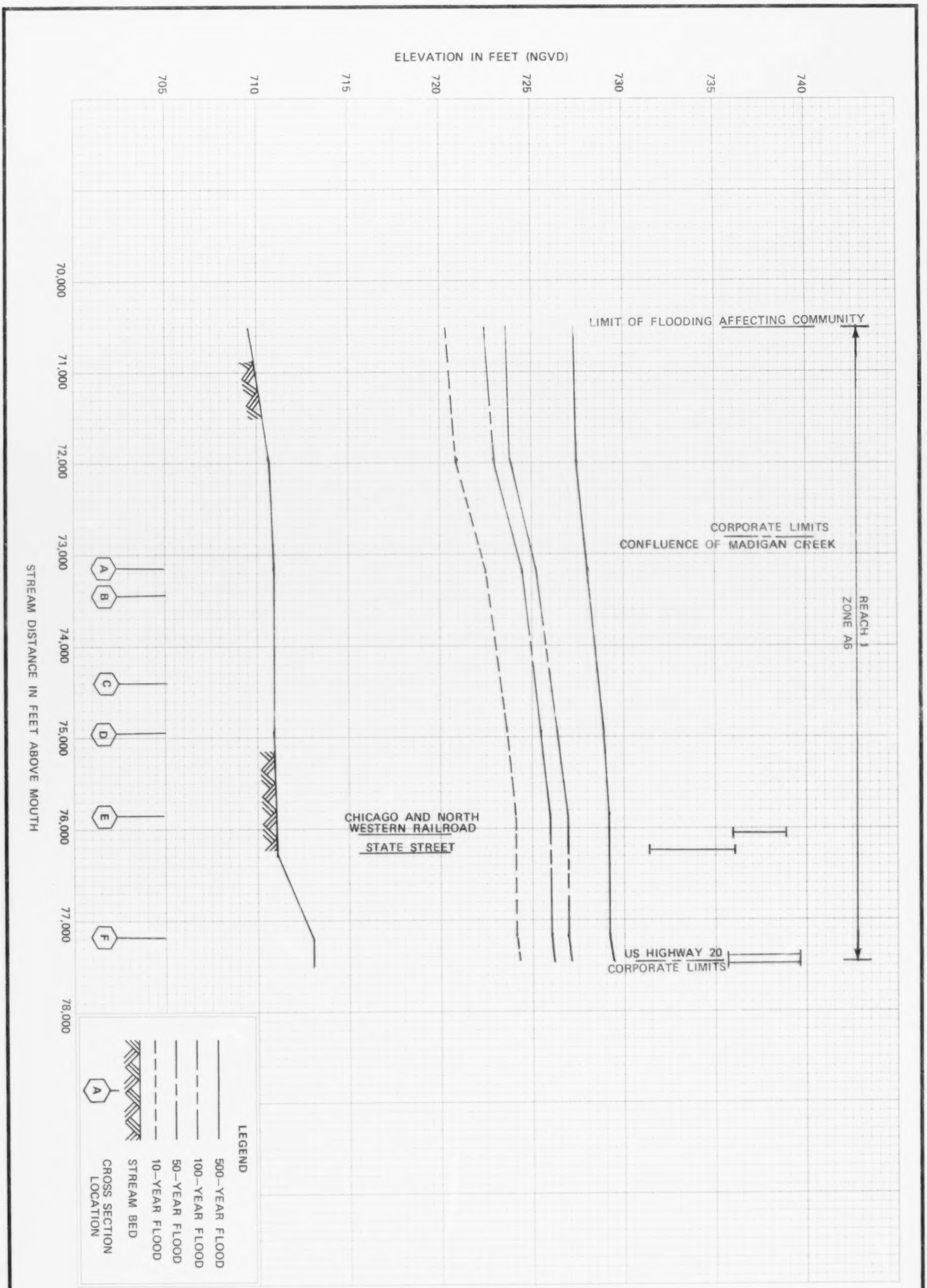
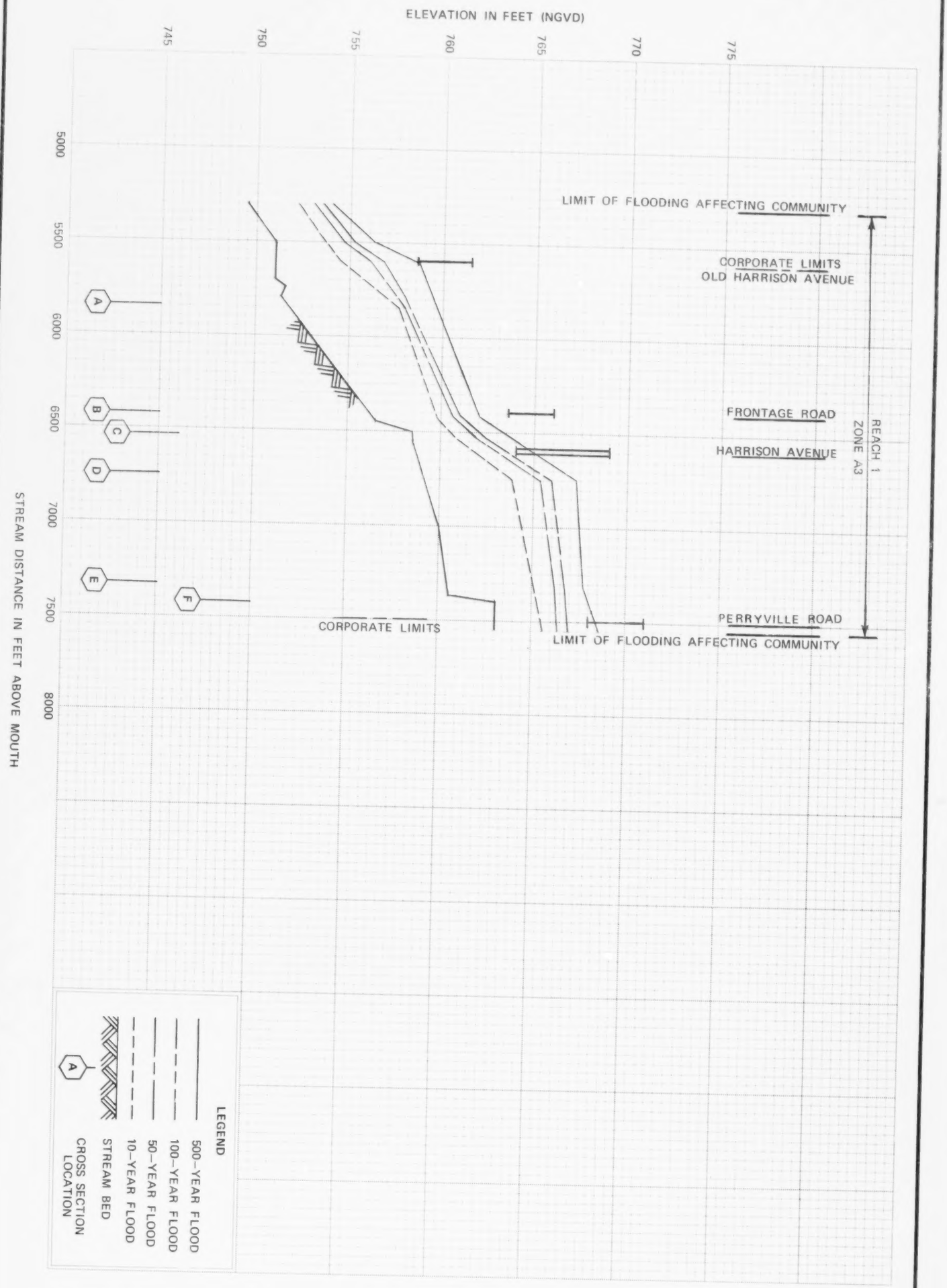



| | | |
|---|---|---|
| 01P | FEDERAL EMERGENCY MANAGEMENT AGENCY<br>Federal Insurance Administration<br>**VILLAGE OF CHERRY VALLEY, IL**<br>(WINNEBAGO CO.) | **FLOOD PROFILES**<br>**KISHWAUKEE RIVER** |




02P

FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Insurance Administration
**VILLAGE OF CHERRY VALLEY, IL**
(WINNEBAGO CO.)

**FLOOD PROFILES**

**MADIGAN CREEK**